

FIG. 1 (Prior Art)

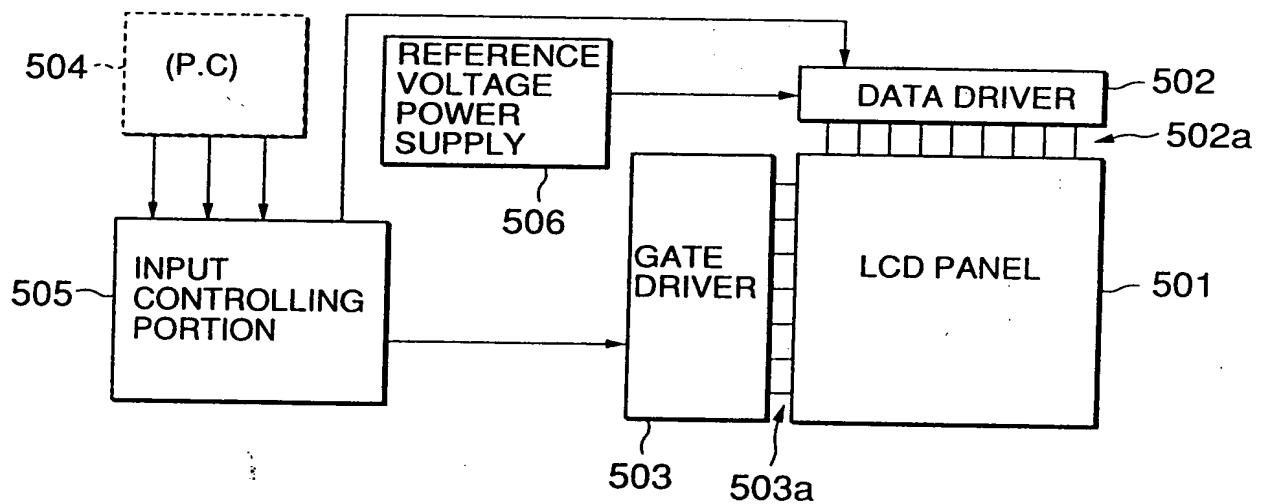
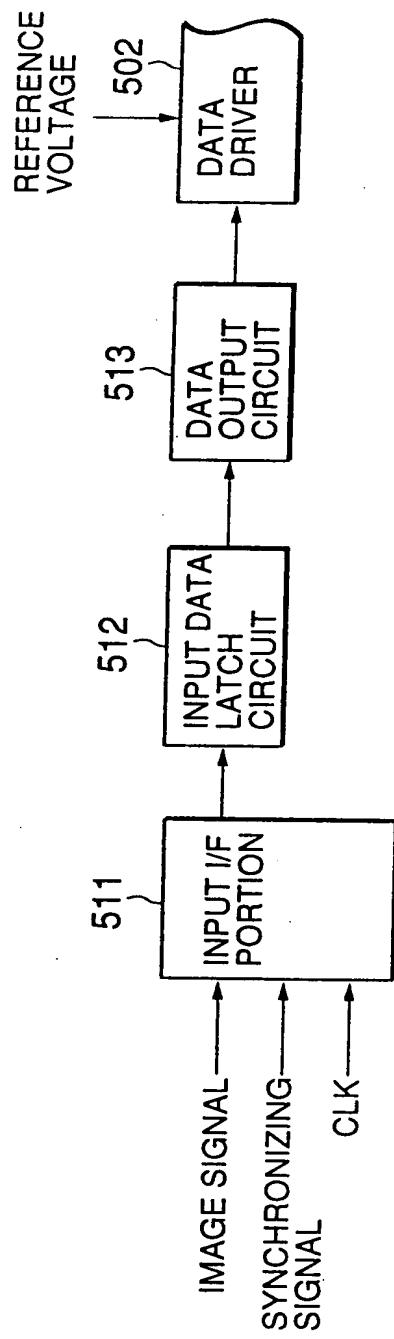


FIG. 2 (Prior Art)



DISPLAY PANEL DRIVING METHOD, DISPLAY PANEL...  
Hiraki et al. Our File No.: 1508.68361  
Divisional of Serial No. 09/428,324  
Greer, Burns & Crain, Ltd. (Patrick G. Burns) (312) 360-0080  
Sheet 3 of 51

FIG. 3

SECTIONAL SHAPE OF LIQUID CRYSTAL PANEL

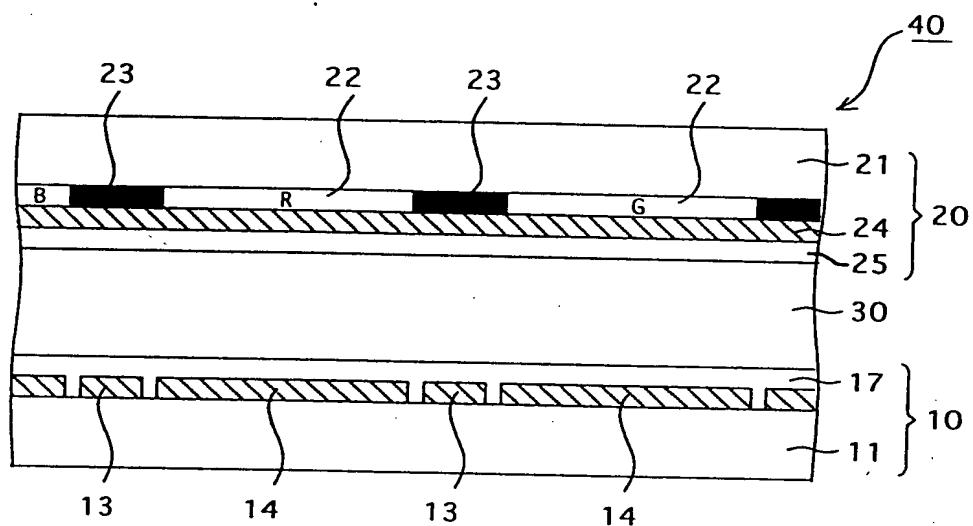


FIG. 4  
LIQUID CRYSTAL DISPLAY PANEL

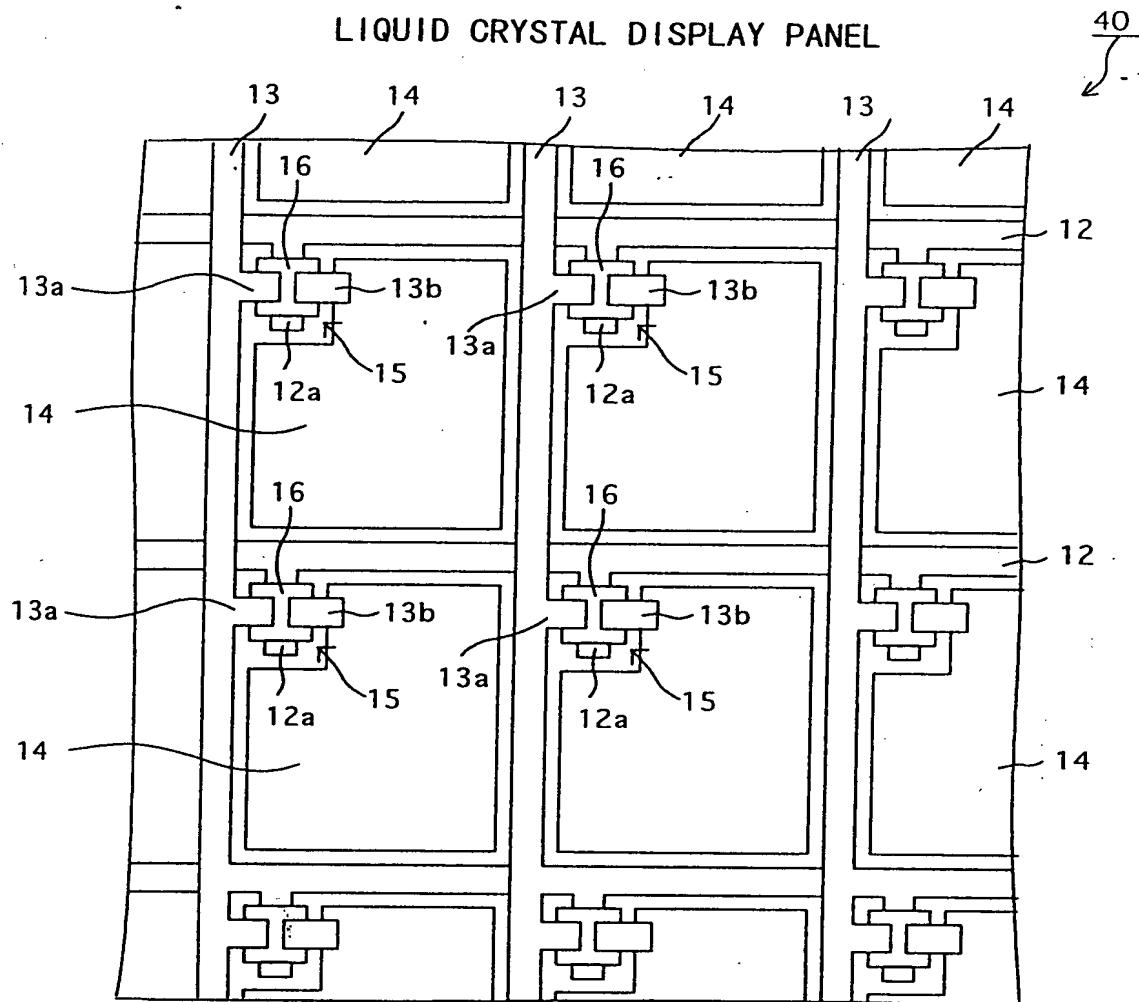


FIG. 5  
CONFIGURATION OF LIQUID CRYSTAL DISPLAY DEVICE

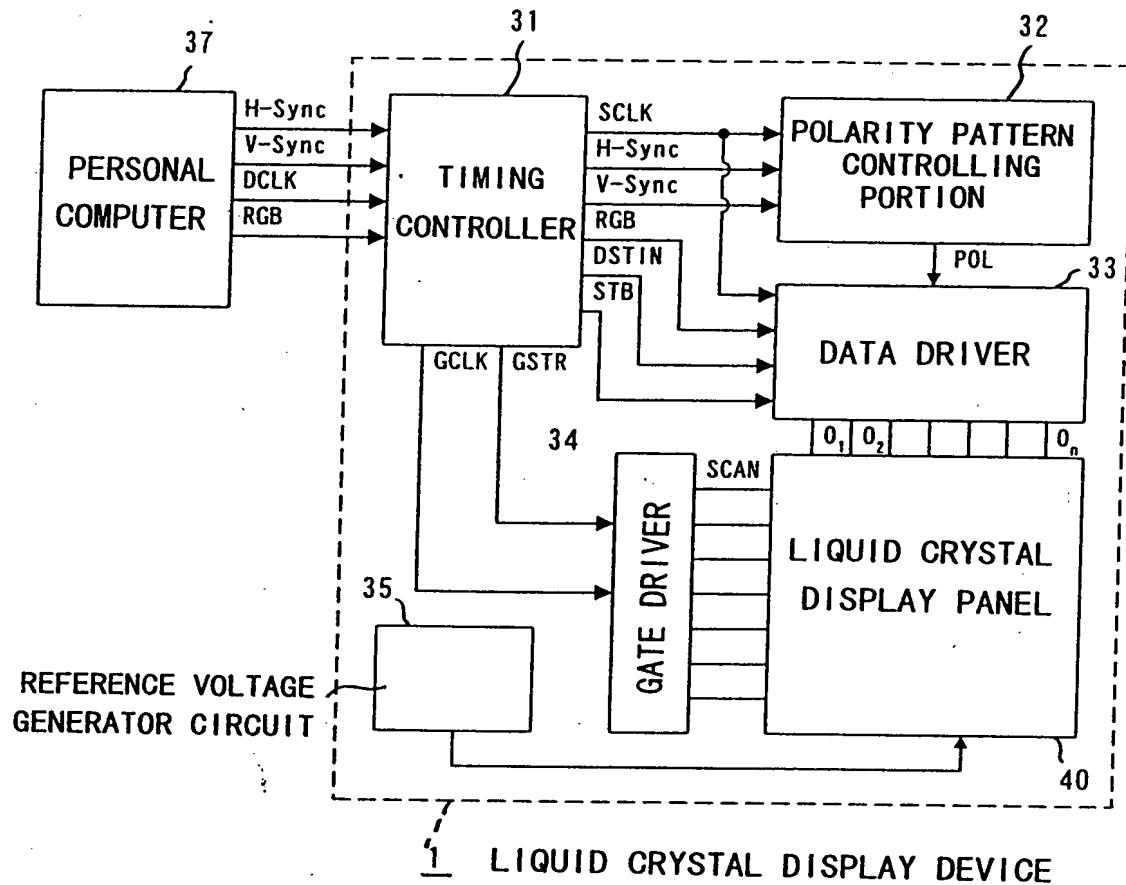


FIG. 6  
TIMING CHART (1)

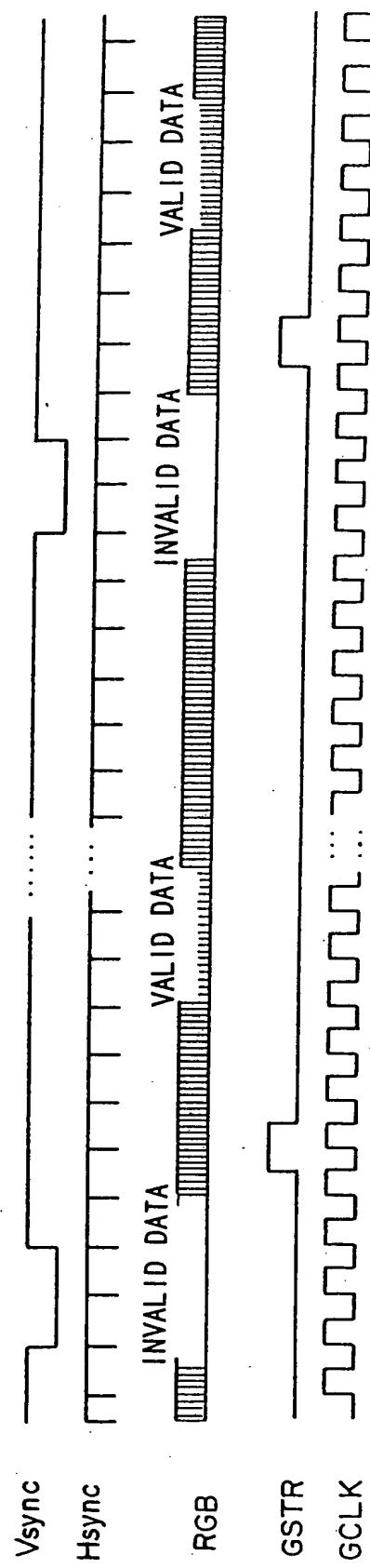


FIG. 7

TIMING CHART (2)

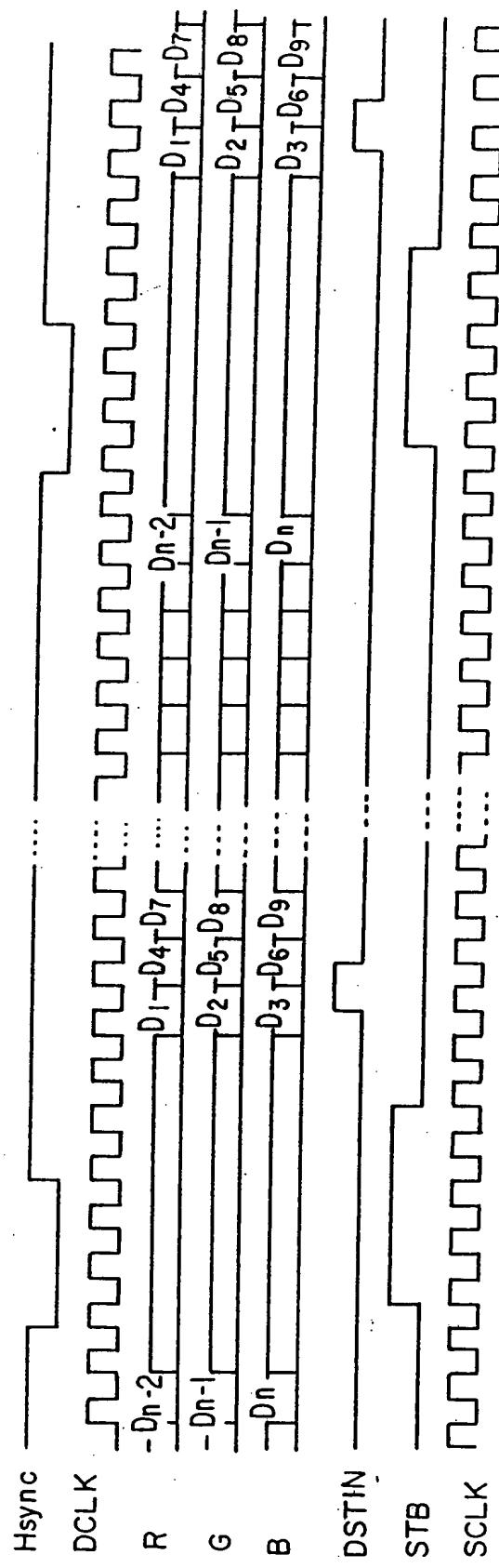


FIG. 8

CONFIGURATION OF POLARITY PATTERN CONTROLLING PORTION 32

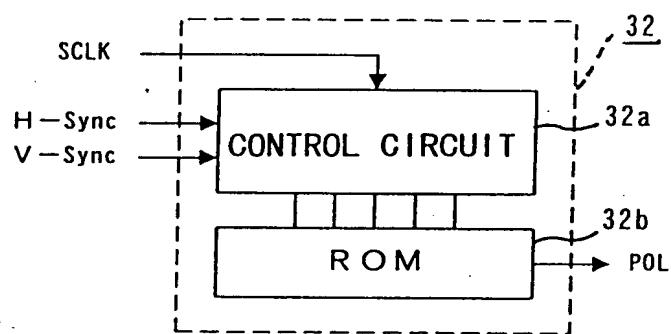


FIG. 9

CONFIGURATION OF DATA DRIVER 33

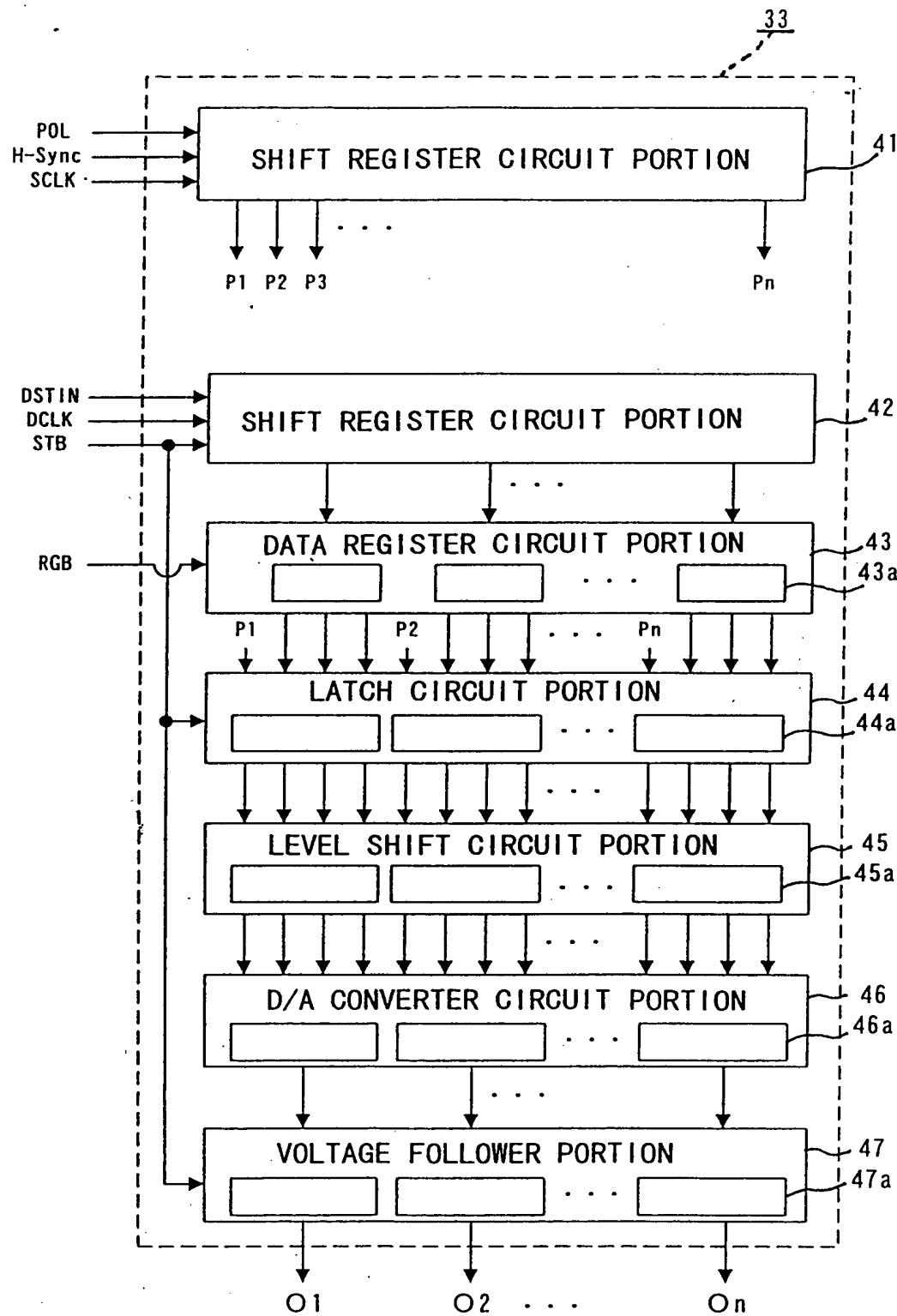


FIG. 10

CONFIGURATION OF D/A CONVERTER 46a

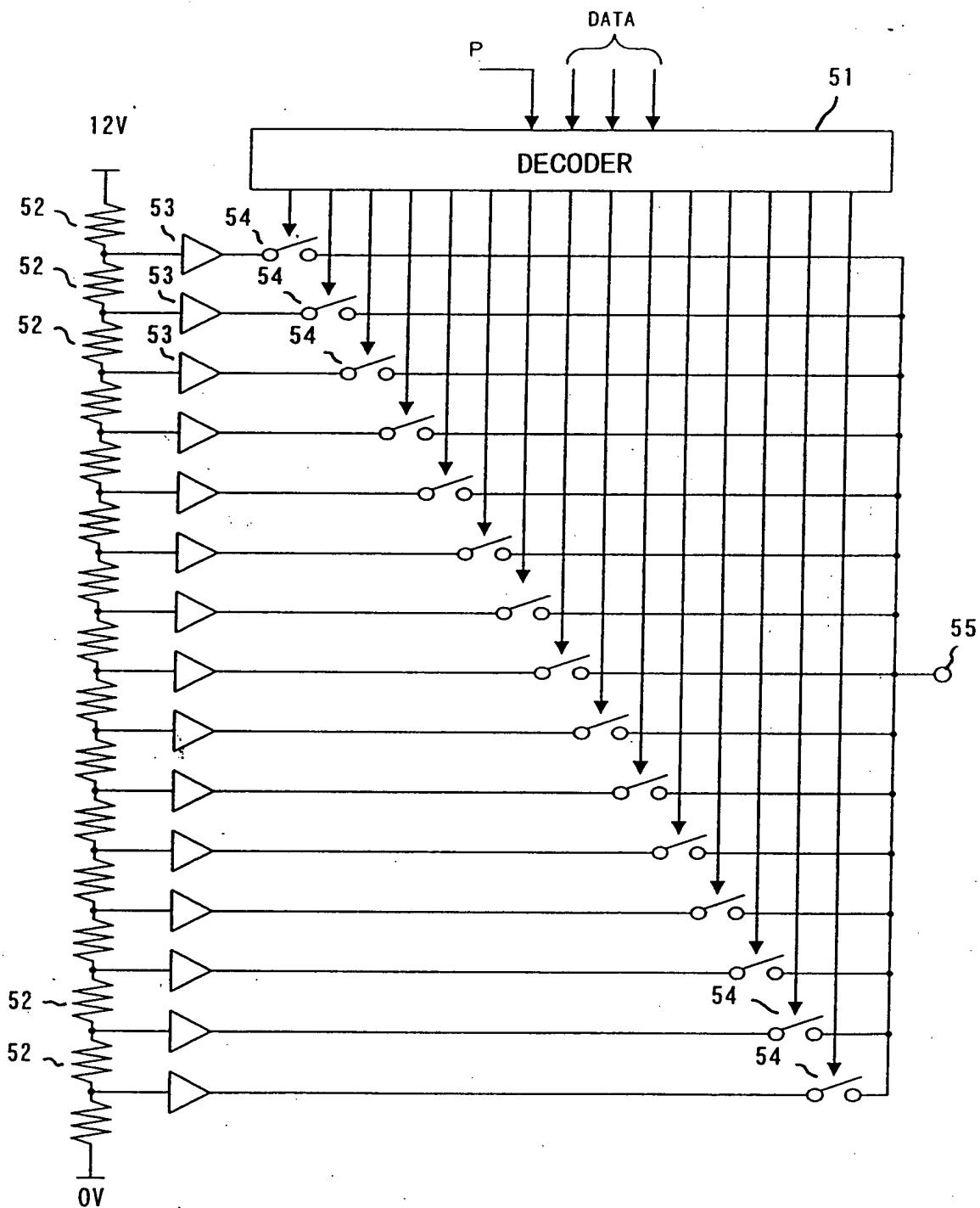


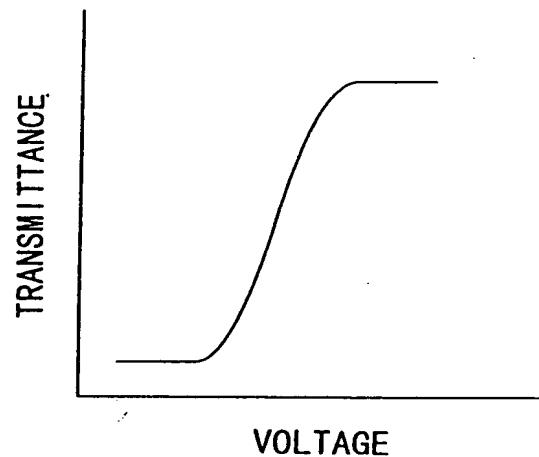
FIG. 11

## INPUT/OUTPUT OF DECODER 51

DISPLAY PANEL DRIVING METHOD, DISPLAY PANEL...  
Hiraki et al. Our File No.: 1508.68361  
Divisional of Serial No. 09/428,324  
Greer, Burns & Crain, Ltd. (Patrick G. Burns) (312) 360-0080  
Sheet 12 of 51

## FIG. 12

### VOLTAGE-TRANSMITTANCE CHARACTERISTIC



### EXAMPLE OF POLARITY PATTERN (1)

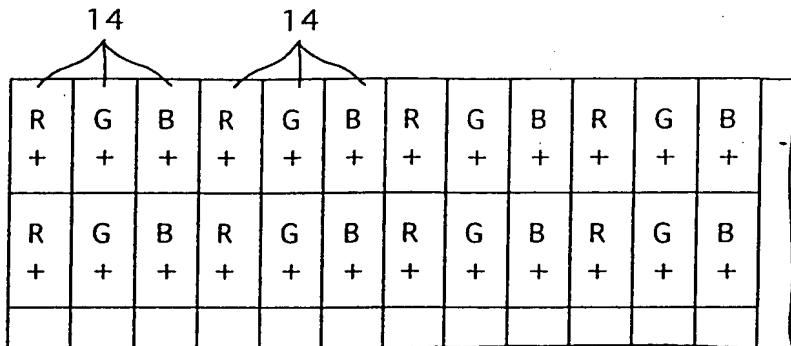


FIG. 13A

## DISPLAY PIXEL

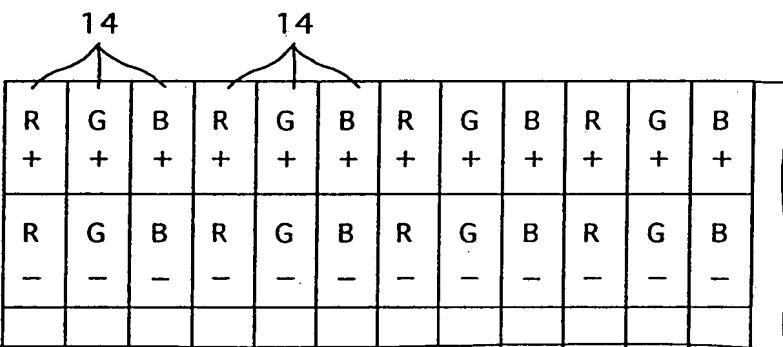


FIG. 13B

## DISPLAY PIXEL

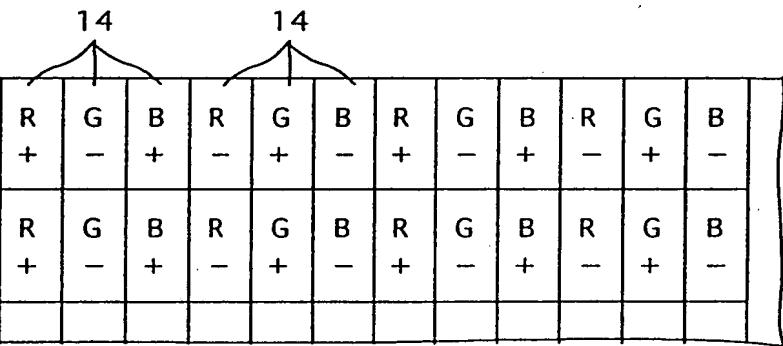


FIG. 13C

## DISPLAY PIXEL

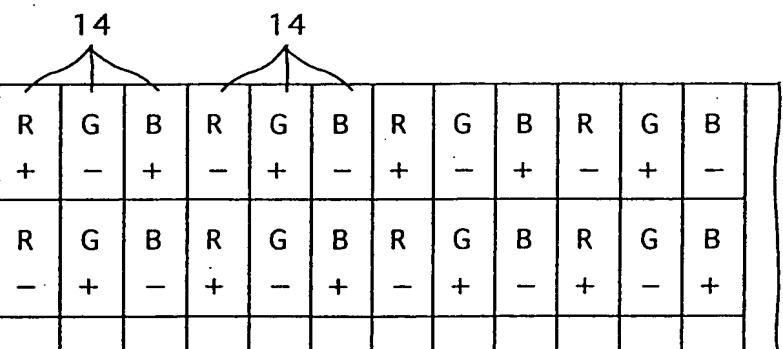


FIG. 13D

## DISPLAY PIXEL

FIG. 14  
EXAMPLE OF POLARITY PATTERN (2)

DISPLAY PIXEL

R	G	B	R	G	B	R	G	B	R	G	B
+	+	-	-	+	+	-	-	+	+	-	-
R	G	B	R	G	B	R	G	B	R	G	B
-	-	+	+	-	-	+	+	-	-	+	+

CASE OF ODD-NUMBERED FRAME

DISPLAY PIXEL

R	G	B	R	G	B	R	G	B	R	G	B
-	-	+	+	-	-	+	+	-	-	+	+
R	G	B	R	G	B	R	G	B	R	G	B
+	+	-	-	+	+	-	-	+	+	-	-

CASE OF EVEN-NUMBERED FRAME

## DISPLAY PATTERN

FIG. 15A

## DISPLAY PIXEL

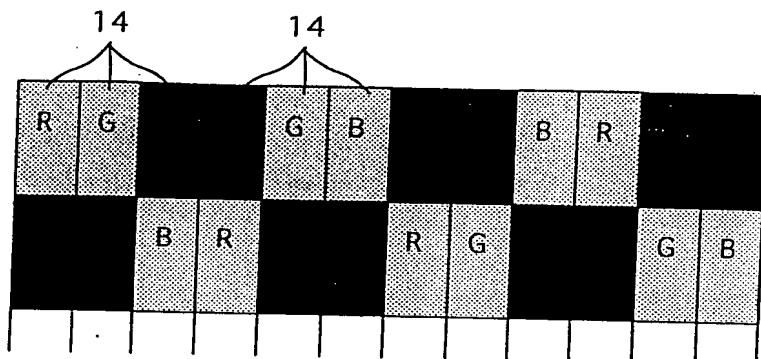


FIG. 15B

DARK YELLOW	DARK SKY BLUE	DARK BLUE	DARK RED
DARK BLUE	DARK RED	DARK YELLOW	DARK SKY BLUE

FIG. 16

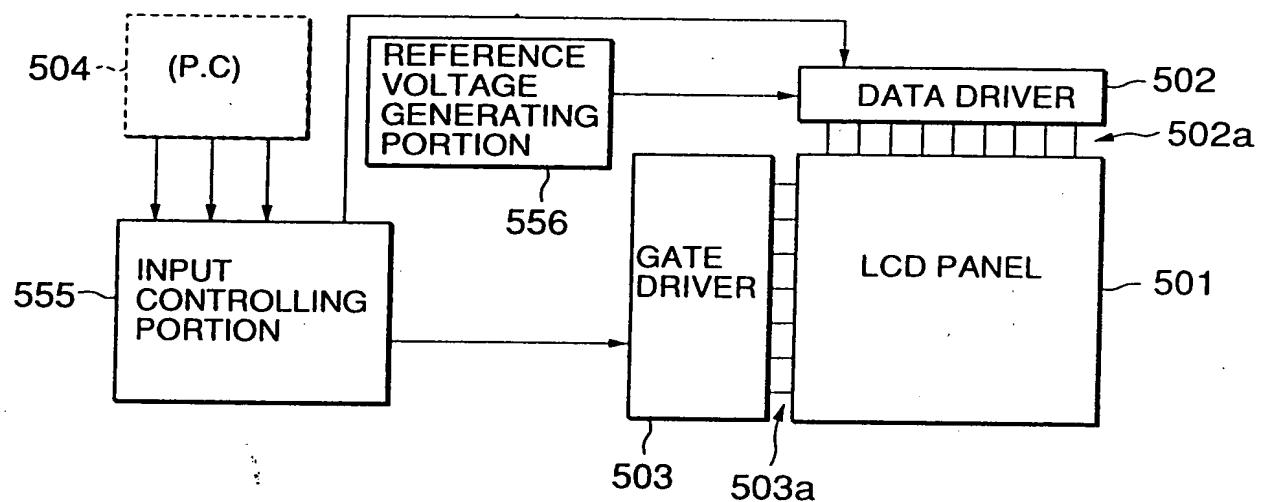


FIG. 17

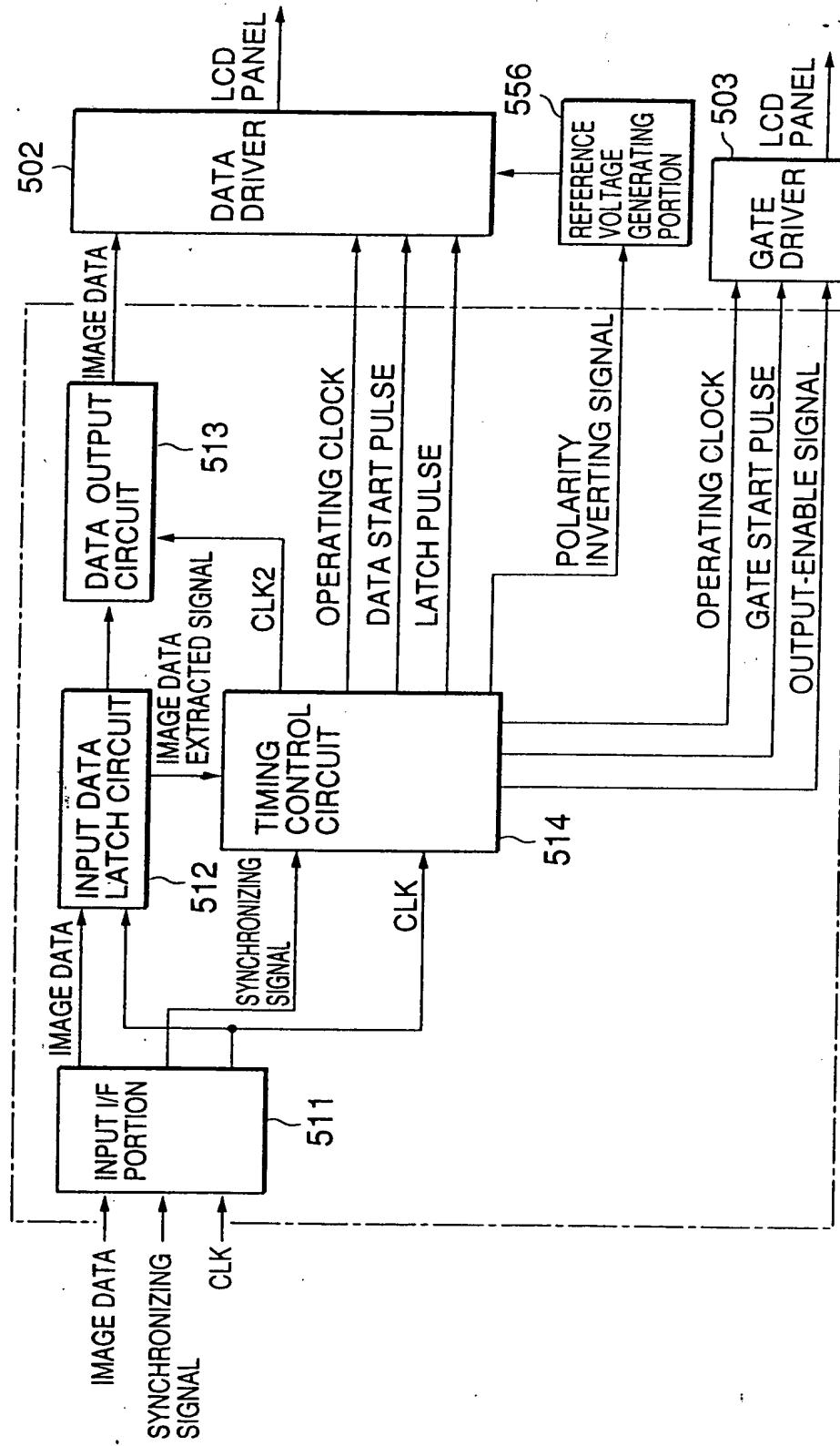


FIG. 18

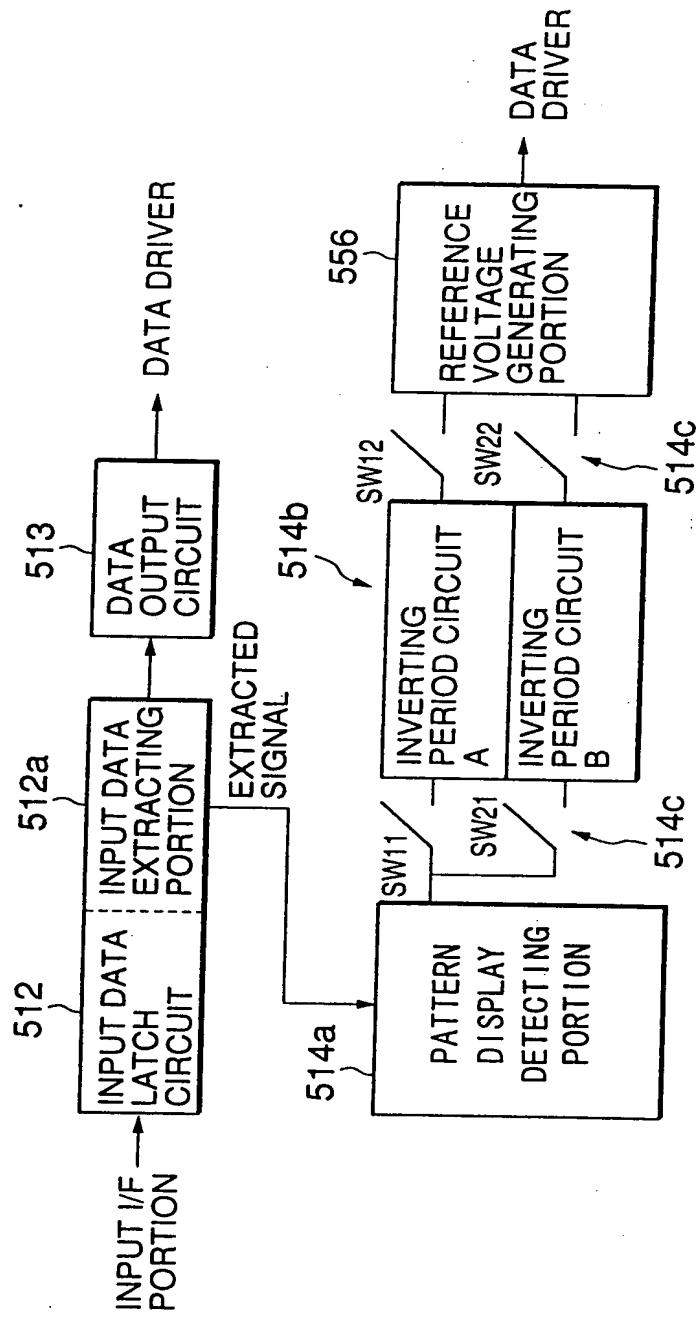


FIG. 19

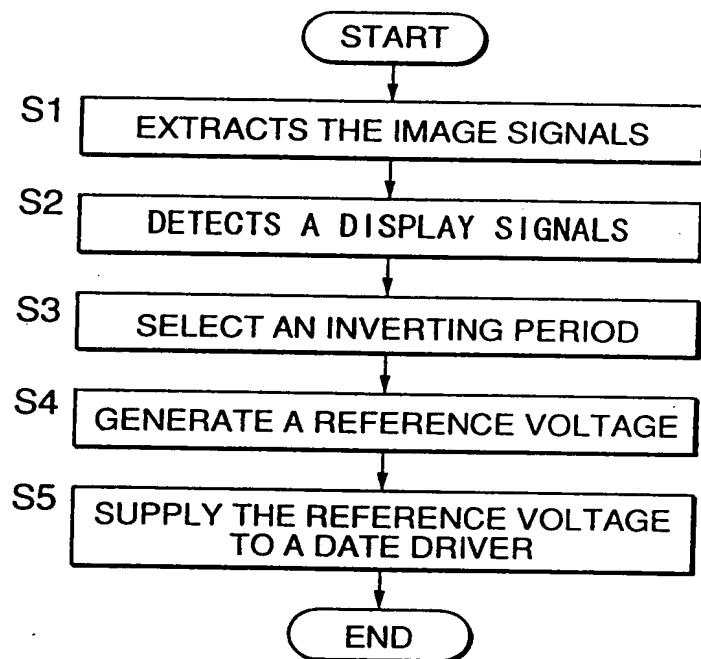


FIG. 20A

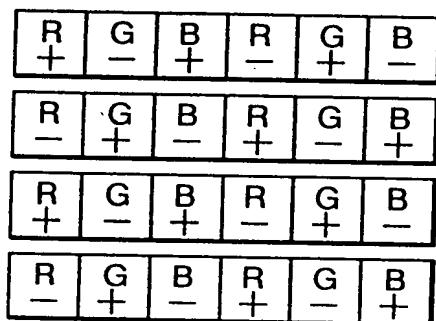


FIG. 20B

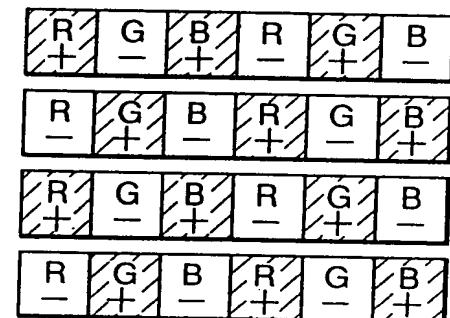


FIG. 20C

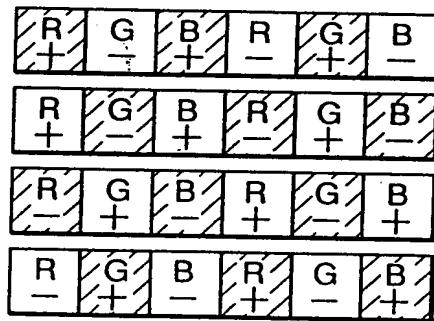


FIG. 20D

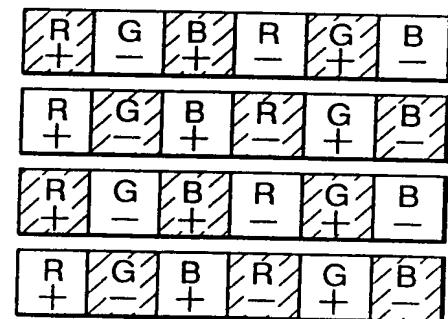


FIG. 21

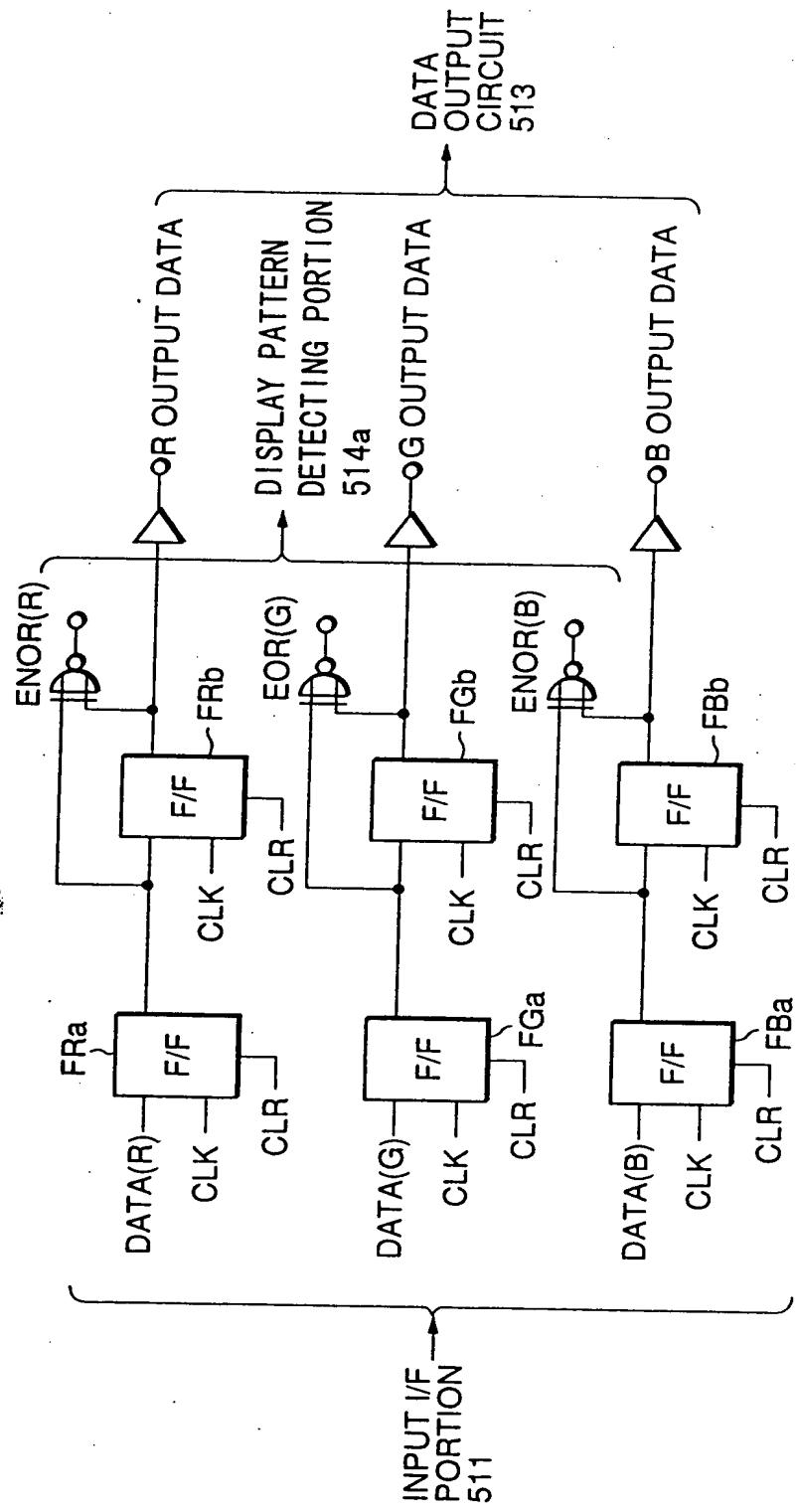


FIG. 22

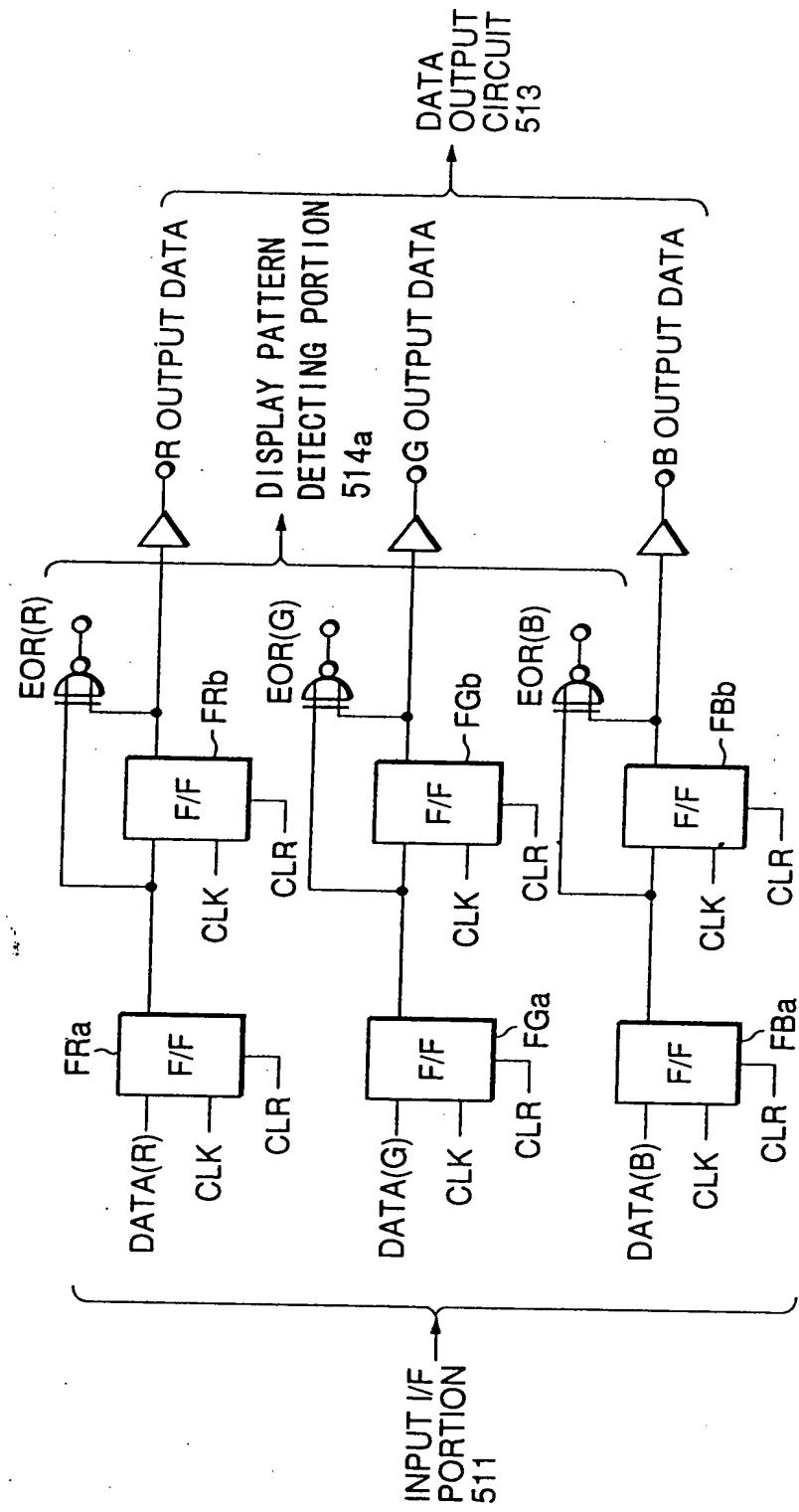


FIG. 23

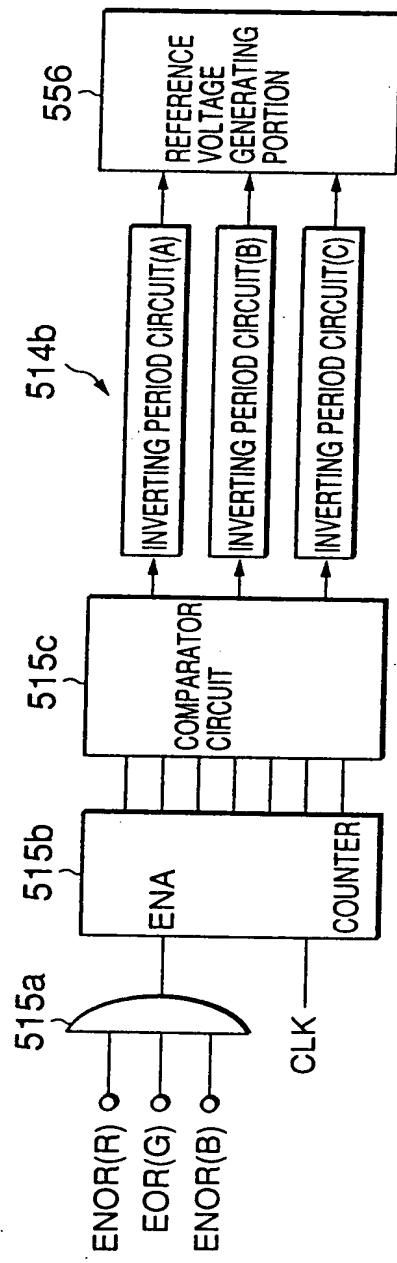
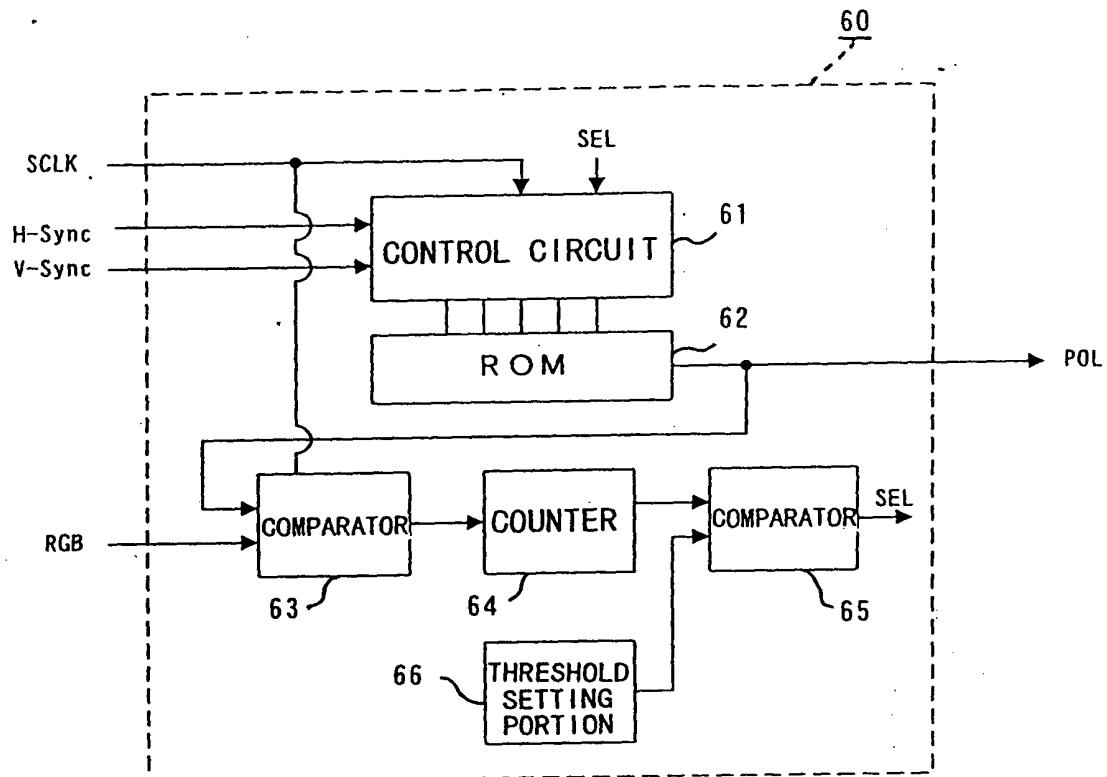


FIG. 24

POLARITY PATTERN CONTROLLING PORTION



EXAMPLE OF POLARITY PATTERN (3)

FIG. 25A

OUTPUT	01	02	03	04	05	06	07	08	09	00	011	012	013	014	015	016
POLARITY	+	-	+	-	-	-	+	+	-	-	-	-	+	+	-	+

POLARITY PATTERN SIGNAL (P0L)

FIG. 25B

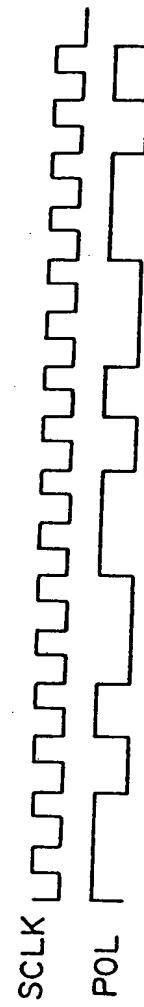


FIG. 26

POLARITY PATTERN CONTROLLING PORTION

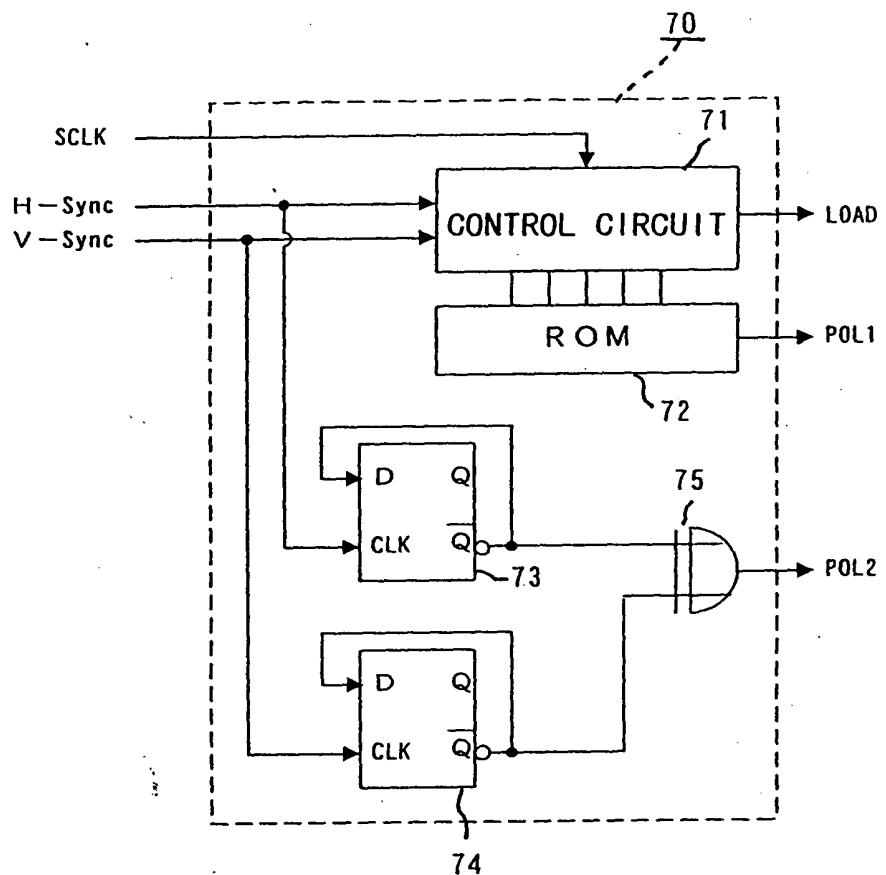


FIG. 27

DATA DRIVER

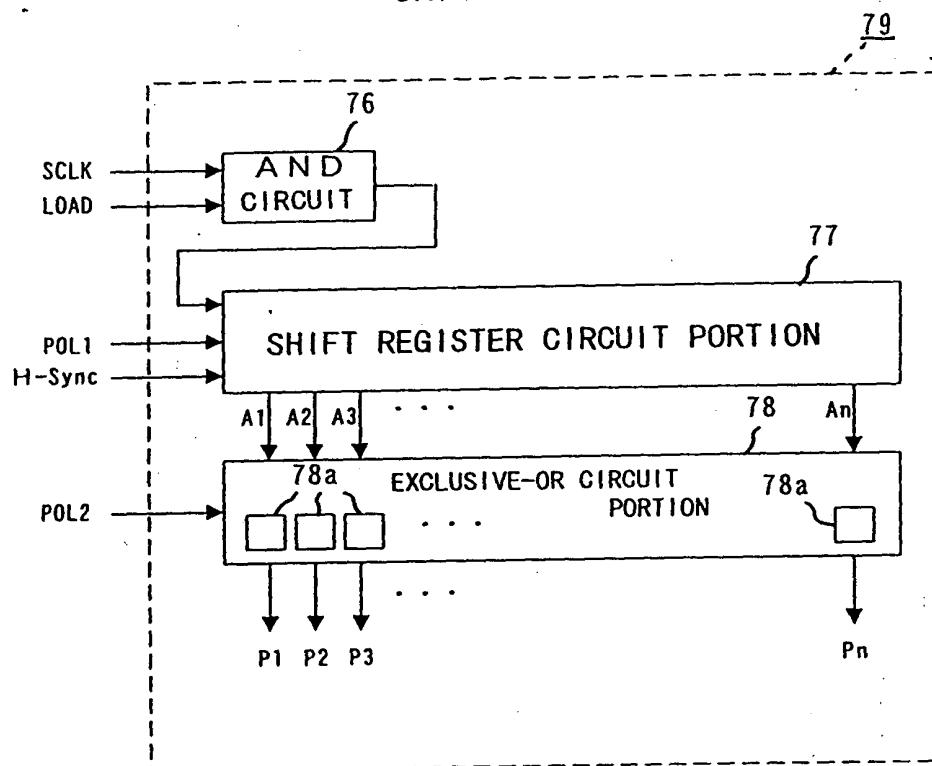


FIG. 28

TIMING CHART (3)

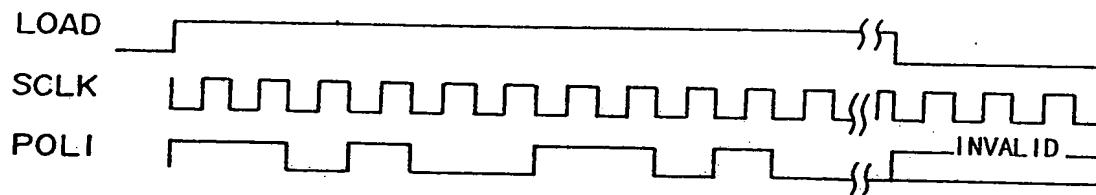


FIG. 29

EXAMPLE OF POLARITY PATTERN

OUTPUT		01	02	03	04	05	06	07	08	09	010	011	012
POLARITY	POL2	0	+	+	-	+	-	-	+	+	-	+	-
		1	-	-	+	-	+	+	-	-	+	-	+

FIG. 30

VOLTAGE APPLIED TO PIXEL

14

DISPLAY PIXEL

R	G	B	R	G	B	R	G	B	R	G	B
+	+	-	+	-	-	+	+	-	+	-	-
R	G	B	R	G	B	R	G	B	R	G	B
-	-	+	-	+	+	-	-	+	-	+	+

FIG. 31

CONFIGURATION OF POLARITY PATTERN CONTROLLING PORTION

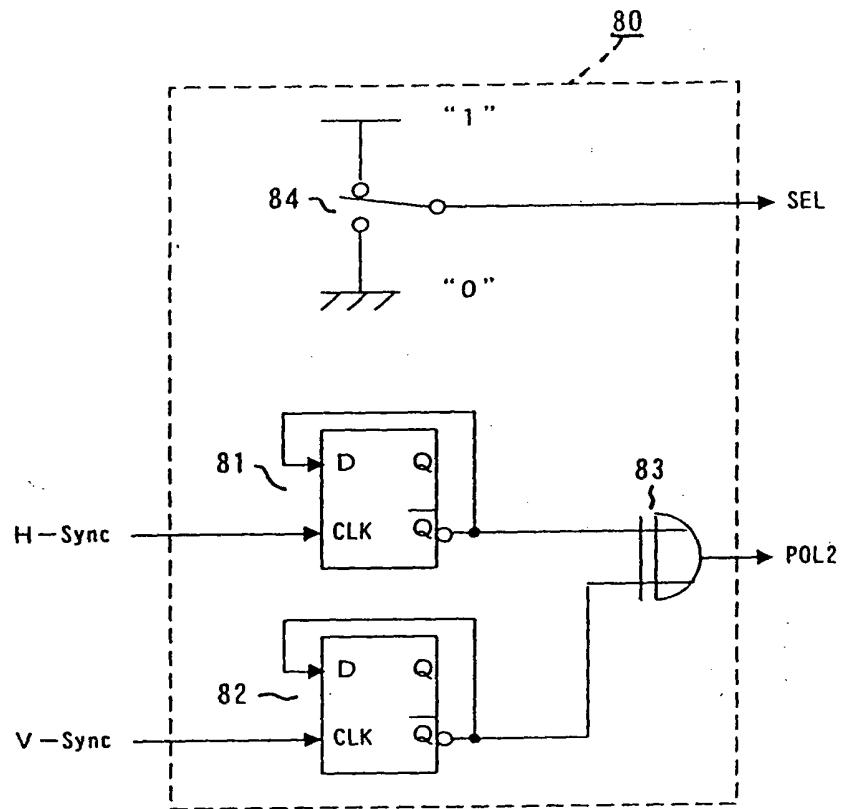


FIG. 32

CONFIGURATION OF POLARITY PATTERN CONTROLLING PORTION

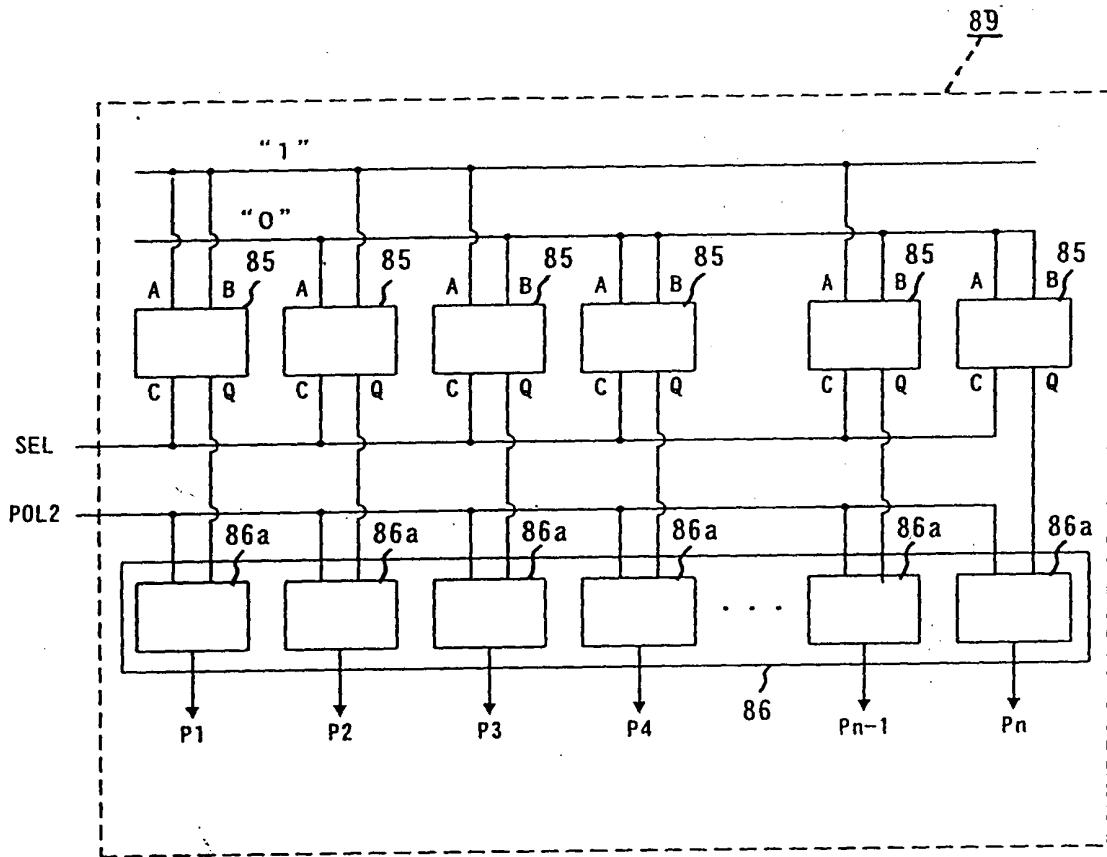


FIG. 33  
INPUT/OUTPUT OF LOGIC CIRCUIT

A	B	C	Q
1	1	0	1
0	1	0	0
1	0	0	1
0	0	0	0

A	B	C	Q
1	1	1	1
0	1	1	1
1	0	1	0
0	0	1	0

FIG. 34A

POLARITY INVERSION IN SEL=0

DISPLAY PIXEL	R	G	B	R	G	B	R	G	B	R	G	B
	+	-	+	-	+	-	+	-	+	-	+	-
	R	G	B	R	G	B	R	G	B	R	G	B
	-	+	-	+	-	+	-	+	-	+	-	+

FIG. 34B

POLARITY INVERSION IN SEL=1

DISPLAY PIXEL	R	G	B	R	G	B	R	G	B	R	G	B
	+	+	-	-	+	+	-	-	+	+	-	-
	R	G	B	R	G	B	R	G	B	R	G	B
	-	-	+	+	-	-	+	+	-	-	+	+

FIG. 35

BLOCK PARTITION OF SCREEN

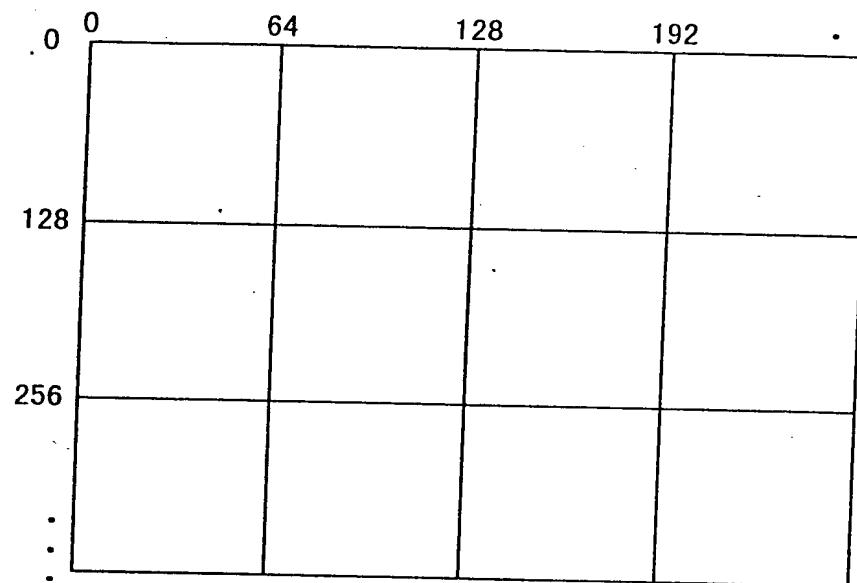


FIG. 36A

FIRST POLARITY PATTERN

+	-	+	-	+	-	+	-
-	+	-	+	-	+	-	+
+	-	+	-	+	-	+	-
-	+	-	+	-	+	-	+
+	-	+	-	+	-	+	-

FIG. 36B

SECOND POLARITY PATTERN

+	-	+	-	+	-	+	-
+	-	+	-	+	-	+	-
-	+	-	+	-	+	-	+
-	+	-	+	-	+	-	+
+	-	+	-	+	-	+	-

FIG. 37  
LIQUID CRYSTAL DISPLAY PANEL DRIVE CIRCUIT

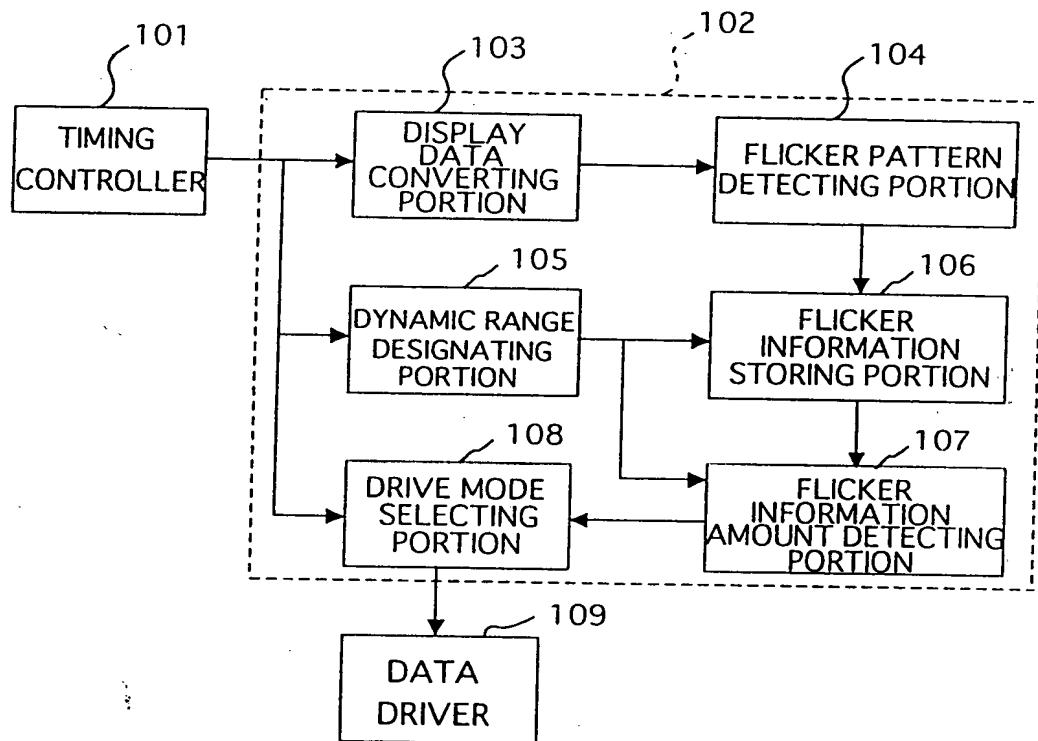


FIG. 38  
 DISPLAY DATA CONVERTING PORTION

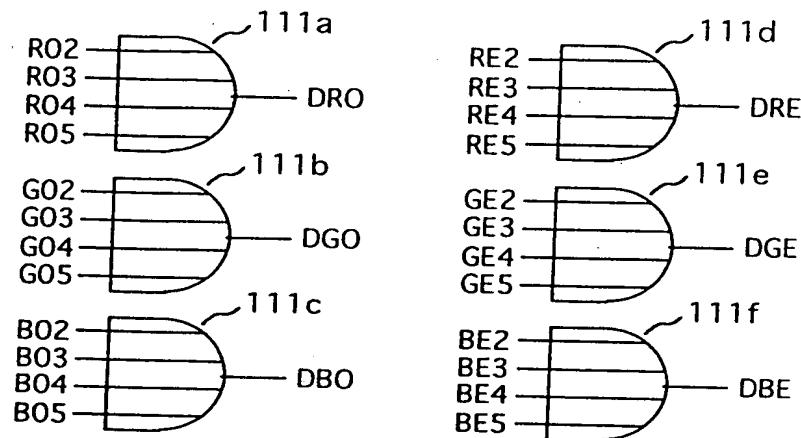


FIG. 39  
 FLICKER PATTERN DETECTING

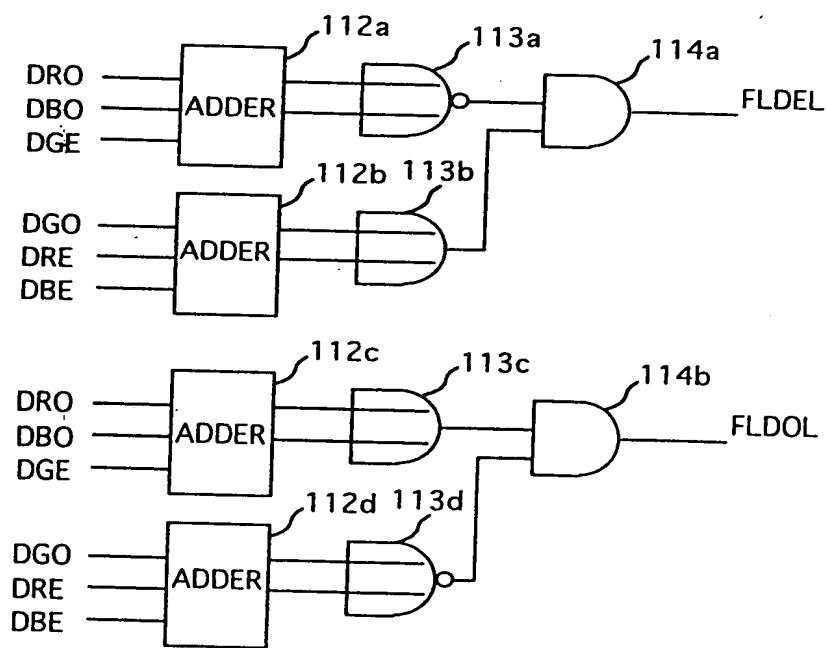


FIG. 40  
 DYNAMIC RANGE DESIGNATING PORTION

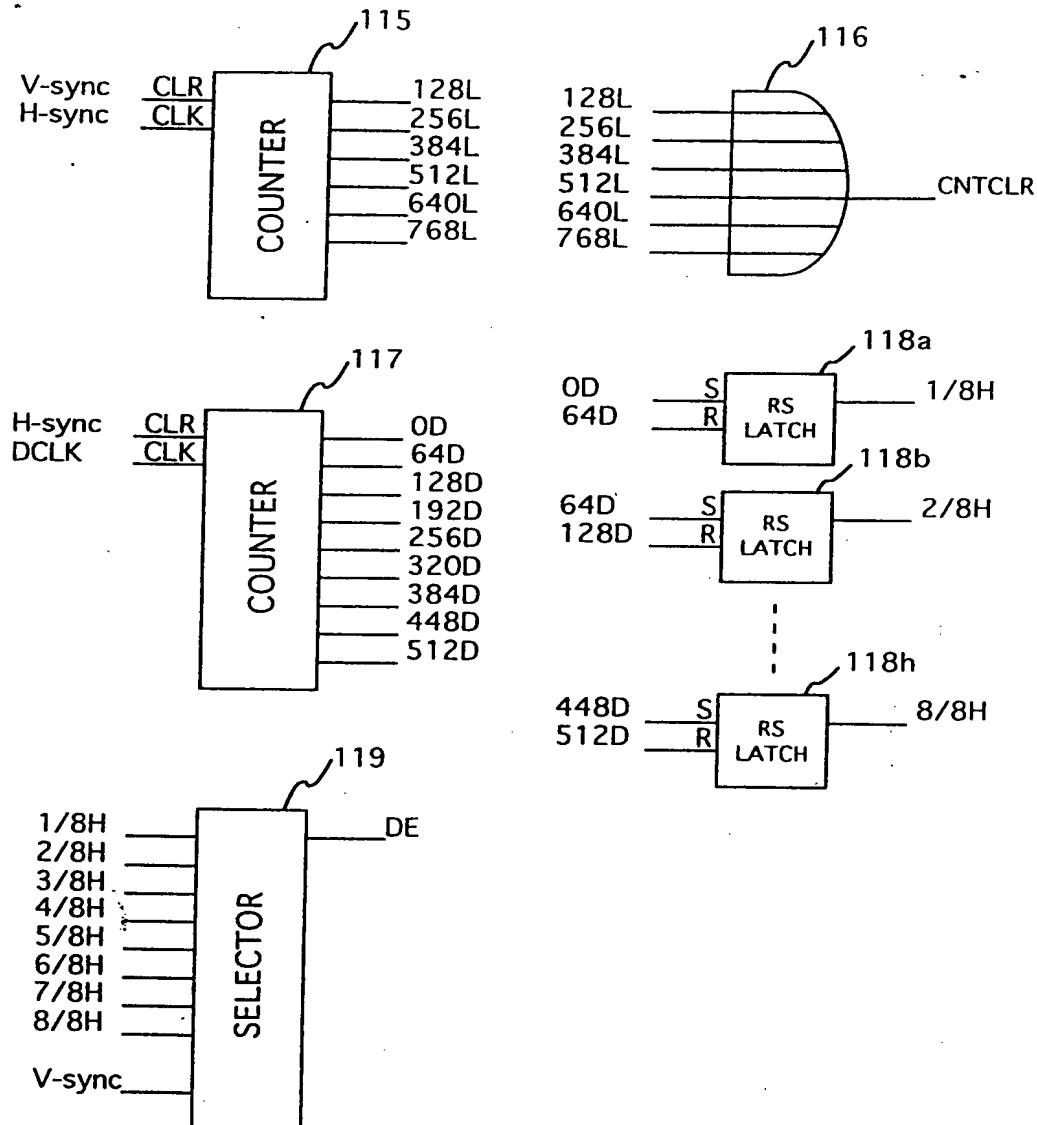


FIG. 41  
FLICKER INFORMATION STORING PORTION

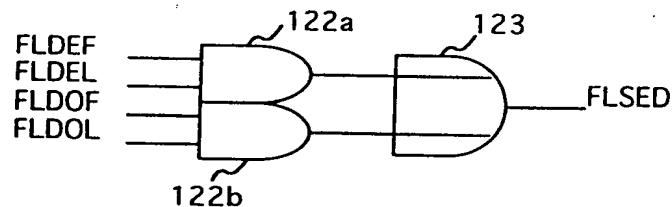
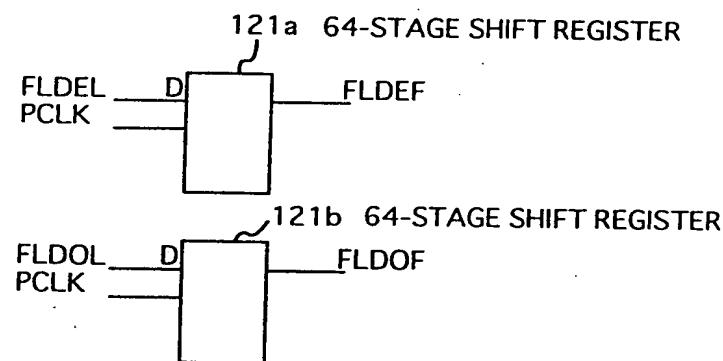


FIG. 42  
 FLICKER INFORMATION STORING PORTION

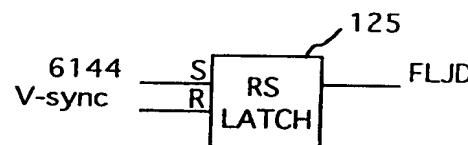
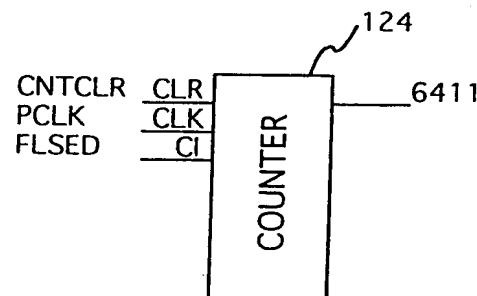
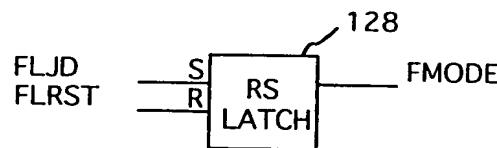
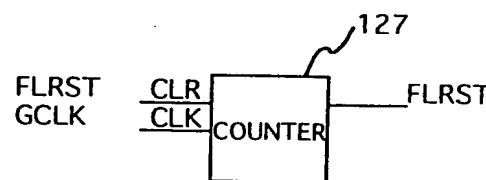


FIG. 43  
 DRIVE MODE SELECTING PORTION



FLICKER PATTERN DECISION

FIG. 44A

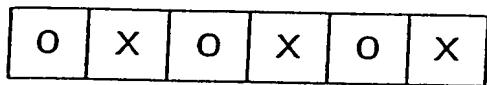


FIG. 44B

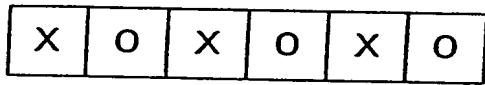
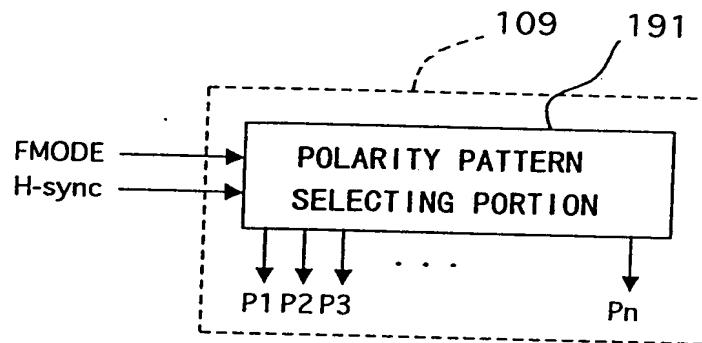


FIG. 45

DATA DRIVER



FLICKER PATTERN

FIG. 46A

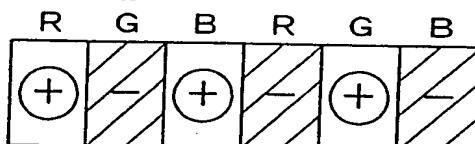


FIG. 46B

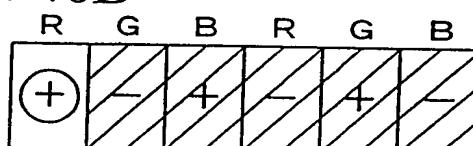


FIG. 46C

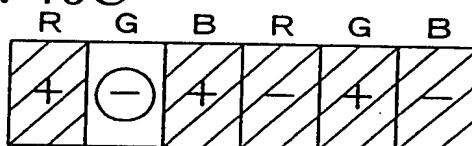


FIG. 46D

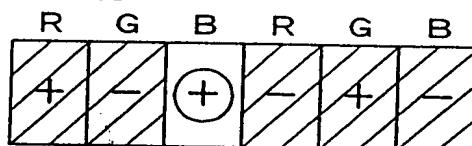


FIG. 46E

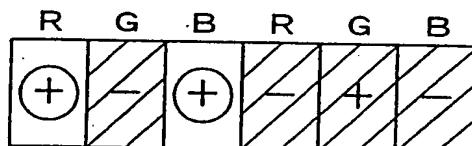


FIG. 46F

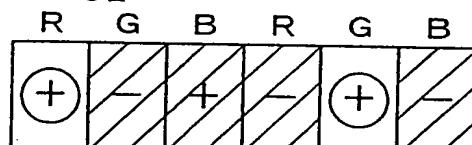


FIG. 46G

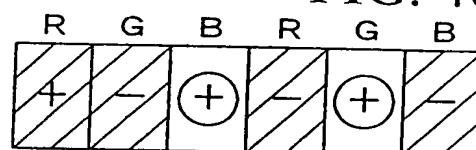


FIG. 46H

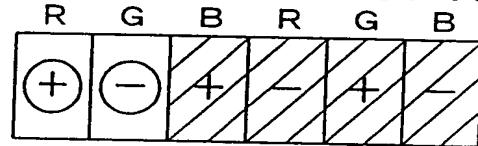


FIG. 46I

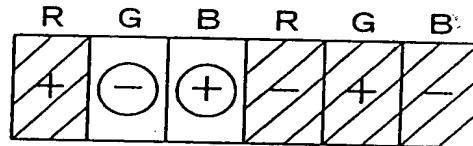


FIG. 46J

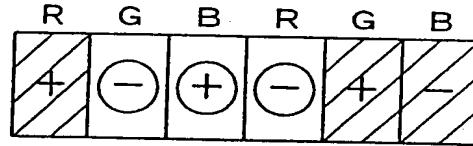


FIG. 46K

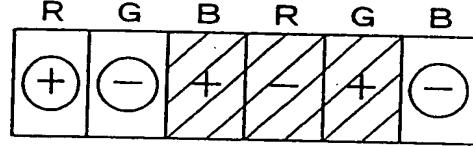
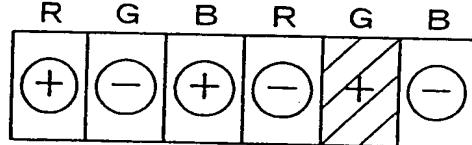
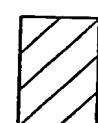


FIG. 46L



TURN-ON



TURN-OFF

EXAMPLE OF FLICKER PATTERN AND EXCEPTION PATTERN

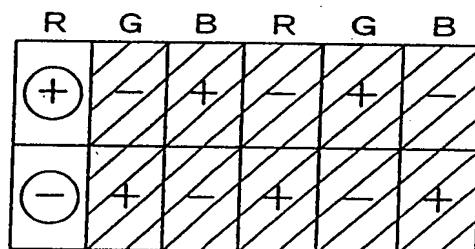
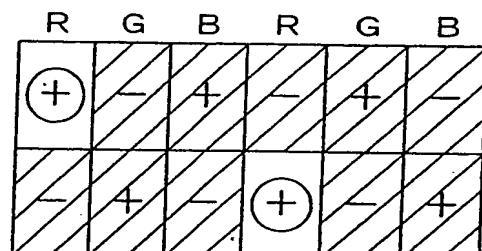


FIG. 48

VERTICAL-STRIPED PATTERN DECISION

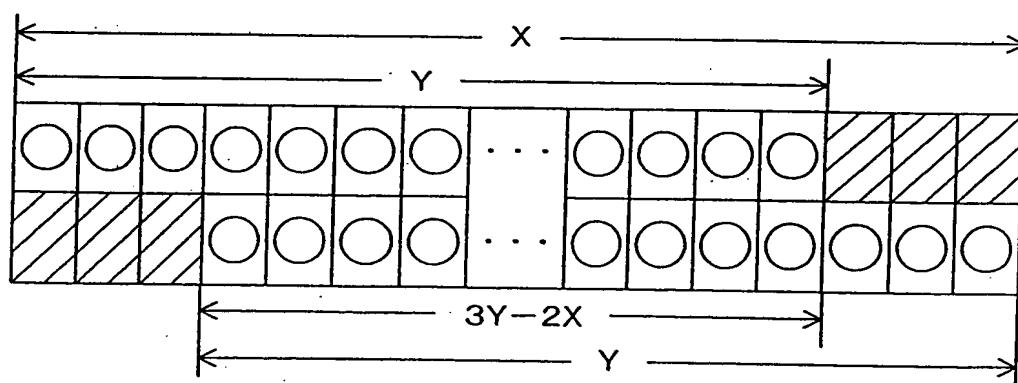


FIG. 49  
2-DOT CHECKER PATTERN

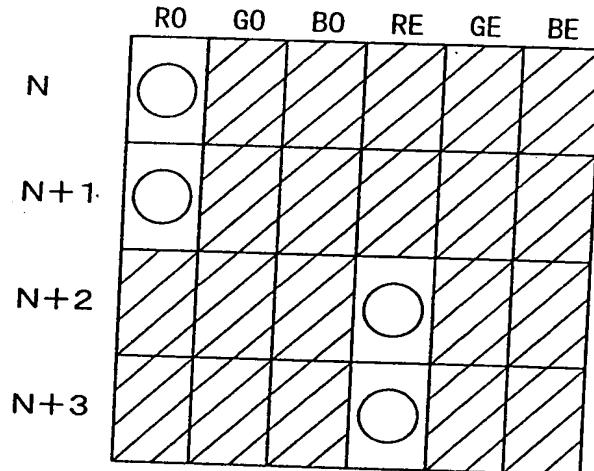


FIG. 50  
EXAMPLE OF SPECIAL PATTERN

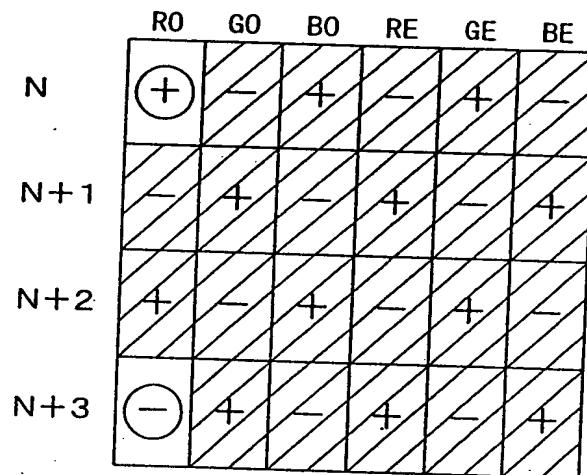


FIG. 51  
VERTICAL LINE INVERTED POLARITY PATTERN

N	+	-	+	-	+	-
N+1	+	-	+	-	+	-
N+2	+	-	+	-	+	-
N+3	+	-	+	-	+	-

FIG. 52  
HORIZONTAL LINE INVERTED POLARITY PATTERN

N	+	+	+	+	+	+
N+1	-	-	-	-	-	-
N+2	+	+	+	+	+	+
N+3	-	-	-	-	-	-

FIG. 53

LIQUID CRYSTAL DISPLAY PANEL DRIVER CIRCUIT

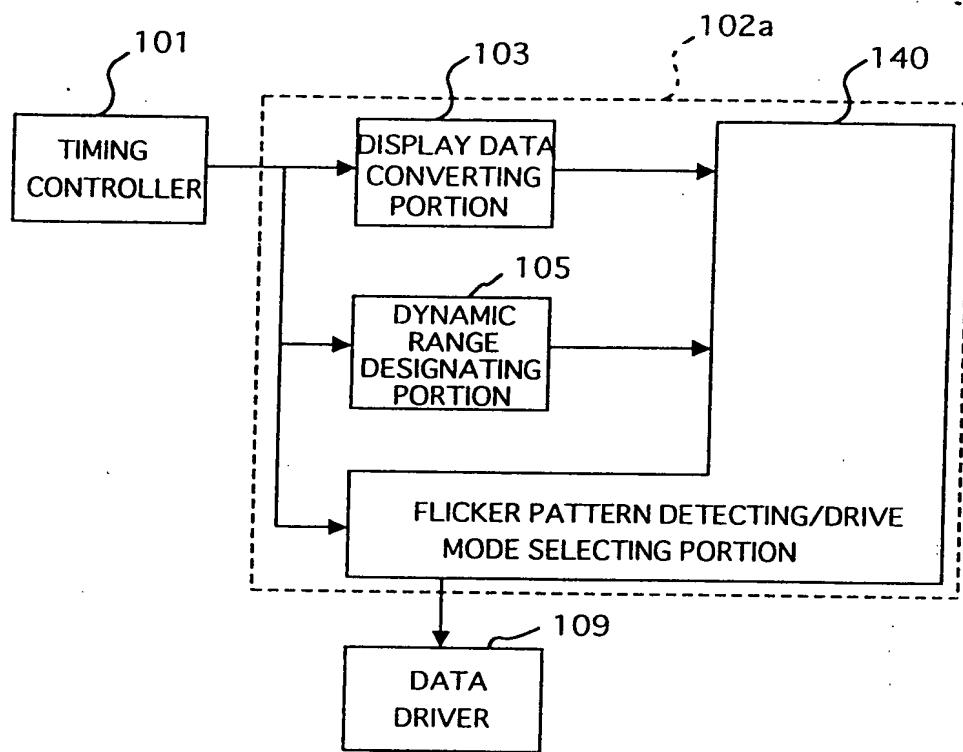


FIG. 54  
FLICKER PATTERN DETECTING/DRIVE MODE  
SELECTING PORTION (No. 1)

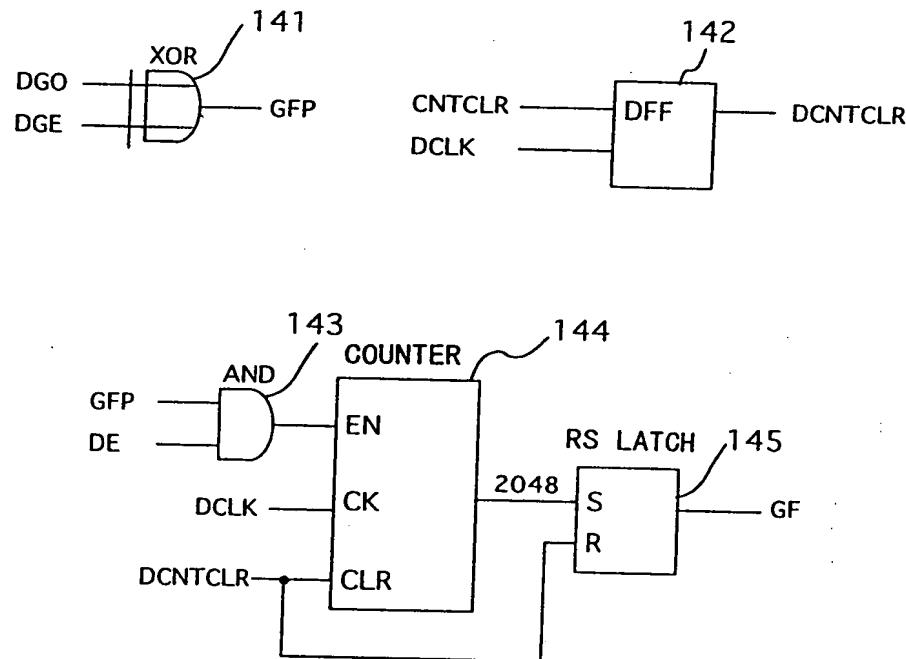


FIG. 55  
 FLICKER PATTERN DETECTING/DRIVE MODE SELECTING PORTION (No. 2)

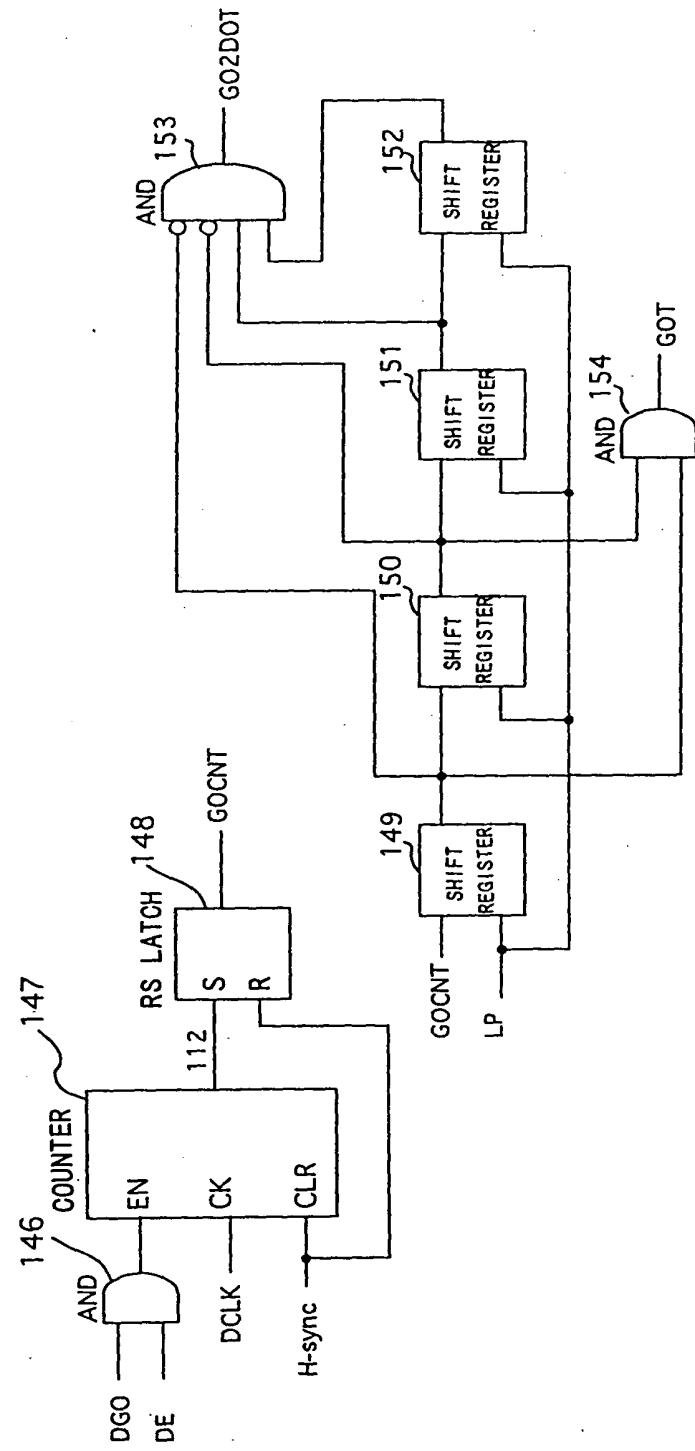


FIG. 56  
 FLICKER PATTERN DETECTING/DRIVE MODE SELECTING PORTION (No. 3)

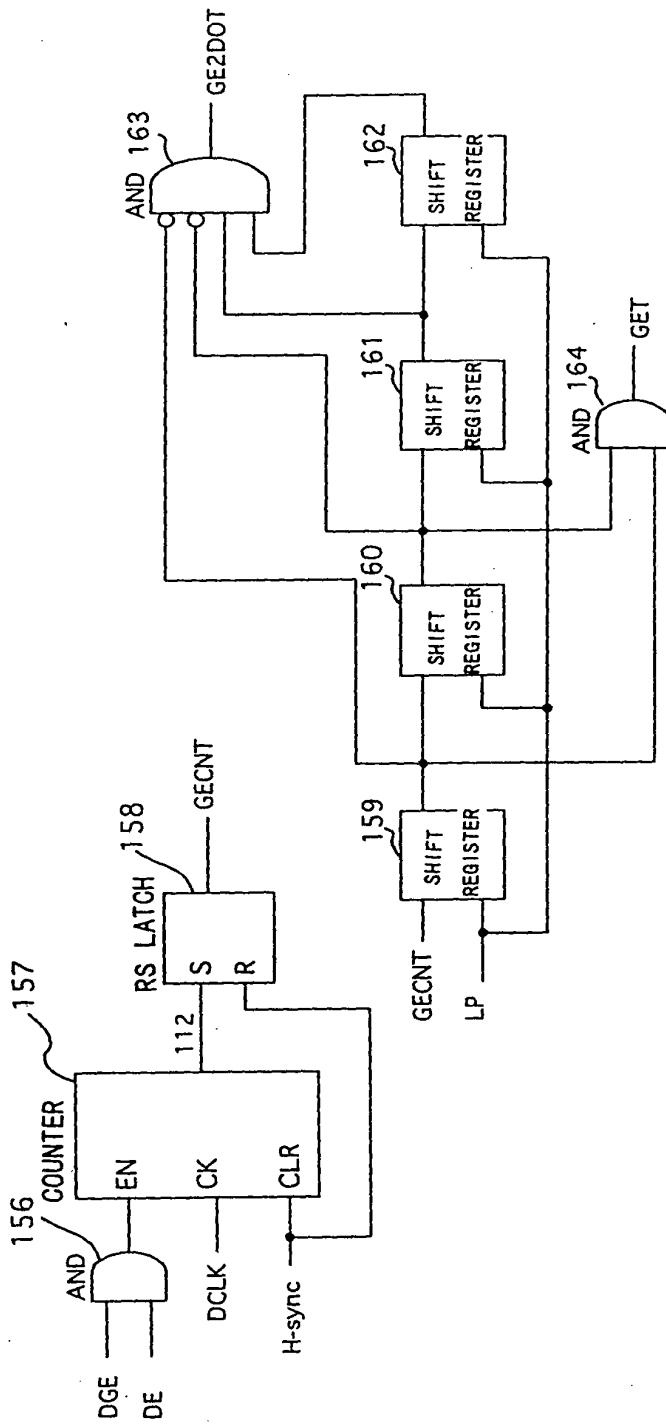


FIG. 57  
FLICKER PATTERN DETECTING/DRIVE MODE  
SELECTING PORTION (No. 4)

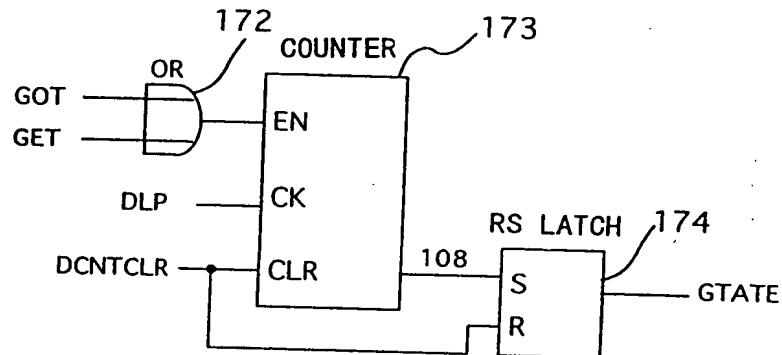
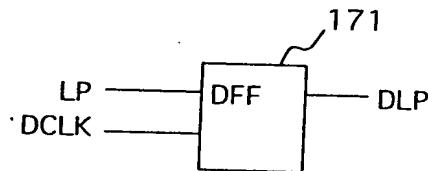


FIG. 58

FLICKER PATTERN DETECTING/DRIVE MODE  
 SELECTING PORTION (No. 5)

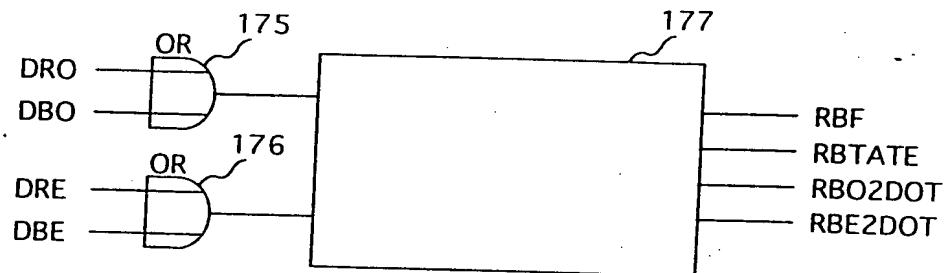


FIG. 59

FLICKER PATTERN DETECTING/DRIVE MODE  
 SELECTING PORTION (No. 6)

